

WHAT IS CLAIMED IS:

1. A composition comprising an isolated DNA molecule comprising a nucleotide sequence encoding the amino acid sequences shown in SEQ ID NO:1, where Xaa is isoleucine or threonine, and a carrier capable of introducing the isolated DNA molecule into a mammalian cell, wherein said nucleotide sequence consists of the sequence of a fragment of human genomic DNA.

2. A method for treating IFN- $\gamma$  and/or killer cell-susceptive diseases using gene therapy, comprising administering the composition according to claim 1 to a subject in need thereof.

3. A method for treating tumors using gene therapy, comprising the steps of:

transforming tumor cells obtained from a subject in need thereof with the composition according to claim 1;

proliferating the transformed tumor cells *ex vivo*; and

transplanting the proliferated transformed tumor cells into the subject in need thereof.

4. The composition according to claim 1, wherein the nucleotide sequence comprises an exon having the sequence shown in SEQ ID NO:3, 4, 5, 6, or 7.

5. The composition according to claim 1, wherein the nucleotide sequence comprises an intron having the sequence shown in SEQ ID NO:8, 9, 10, 11, or 12.

6. The composition according to claim 1, wherein the nucleotide sequence is the sequence shown in SEQ ID NO:13, 14, or 15.

7. The composition according to claim 1, wherein the carrier is a virus or liposome.

8. A method for treating IFN- $\gamma$  and/or killer cell-susceptive diseases using gene therapy, comprising administering the composition according to claim 7 to a subject in need thereof.

9. A method for treating tumors using gene therapy, comprising the steps of:

transforming tumor cells obtained from a subject in need thereof with the composition according to claim 7;

proliferating the transformed tumor cells ex vivo; and

transplanting the proliferated transformed tumor cells into the subject in need thereof.

10. The composition according to claim 1, wherein the isolated DNA molecule is linked with a heterologous nucleotide sequence.

11. A method for treating IFN- $\gamma$  and/or killer cell-susceptive diseases using gene therapy, comprising administering the composition according to claim 10 to a subject in need thereof.

12. A method for treating tumors using gene therapy, comprising administering the steps of:

transforming tumor cells obtained from a subject in need thereof with the composition according to claim 10;

proliferating the transformed tumor cells ex vivo; and

transplanting the proliferated transformed tumor cells into the subject in need thereof.

13. The composition according to claim 6, wherein the heterologous nucleotide sequence is of a virus vector.

14. A method for treating IFN- $\gamma$  and/or killer cell-susceptive diseases using gene therapy, comprising administering the composition according to claim 13 to a subject in need thereof.

15. A method for treating tumors using gene therapy, comprising the steps of:

transforming tumor cells obtained from a subject in need thereof with the composition according to claim 13;

proliferating the transformed tumor cells *ex vivo*; and

transplanting the proliferated transformed tumor cells into the subject in need thereof.

16. A method for treating IFN- $\gamma$ - and/or killer cell-susceptive diseases using gene therapy, comprising administering to a subject in need thereof an isolated DNA molecule comprising a nucleotide sequence encoding the amino acid sequence shown in SEQ ID NO:1, where Xaa is isoleucine or threonine, wherein the nucleotide sequence consists of the sequence of a fragment of human genomic DNA.

17. A method for treating tumors using gene therapy, comprising the steps of:

transforming tumor cells obtained from a subject in need thereof with an isolated DNA molecule comprising a nucleotide sequence encoding the amino acid sequence shown in SEQ ID NO:1, where Xaa is isoleucine or threonine, wherein the nucleotide sequence consists of the sequence of a fragment of human genomic DNA;

proliferating the transformed tumor cells ex vivo; and  
transplanting the proliferated transformed tumor cells  
into the subject in need thereof.